

Urban-Rural Cost Allocation Options

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Overview

- **Purpose:** Intentionally develop urban-rural cost allocation plans that meet the needs of each transit provider
- **Why?** FTA requires that transit systems develop a reasonable and consistent methodology based on service being delivered

Ramifications

- Urban/Rural split methodology informs NTD reporting
- NTD reporting informs funding
 - Rural service increases State allocation
 - Large Urban service increases MPO allocation
- Funding sources determine how you manage your system

Relationship to Cost Allocation Model

What is Your Transit System's Method for Counting Trips?

Get Help

We classify trips using the one trip end rule, so if one trip end is in the rural area, it is a rural trip.

We classify trips based on the x- and y- coordinates of the passenger's home address.

Enter the Inflation Rate to be Applied to FY 2017 Capital Prices Used in this Model:

Enter the Inflation Rate to be Applied in Budget Forecasts for Operations:

NCDOT Urban/Rural Cost Allocation Model
Enter System Service Data

Systems Should Enter Data by Mode

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[Erase All Data in This Sheet](#)

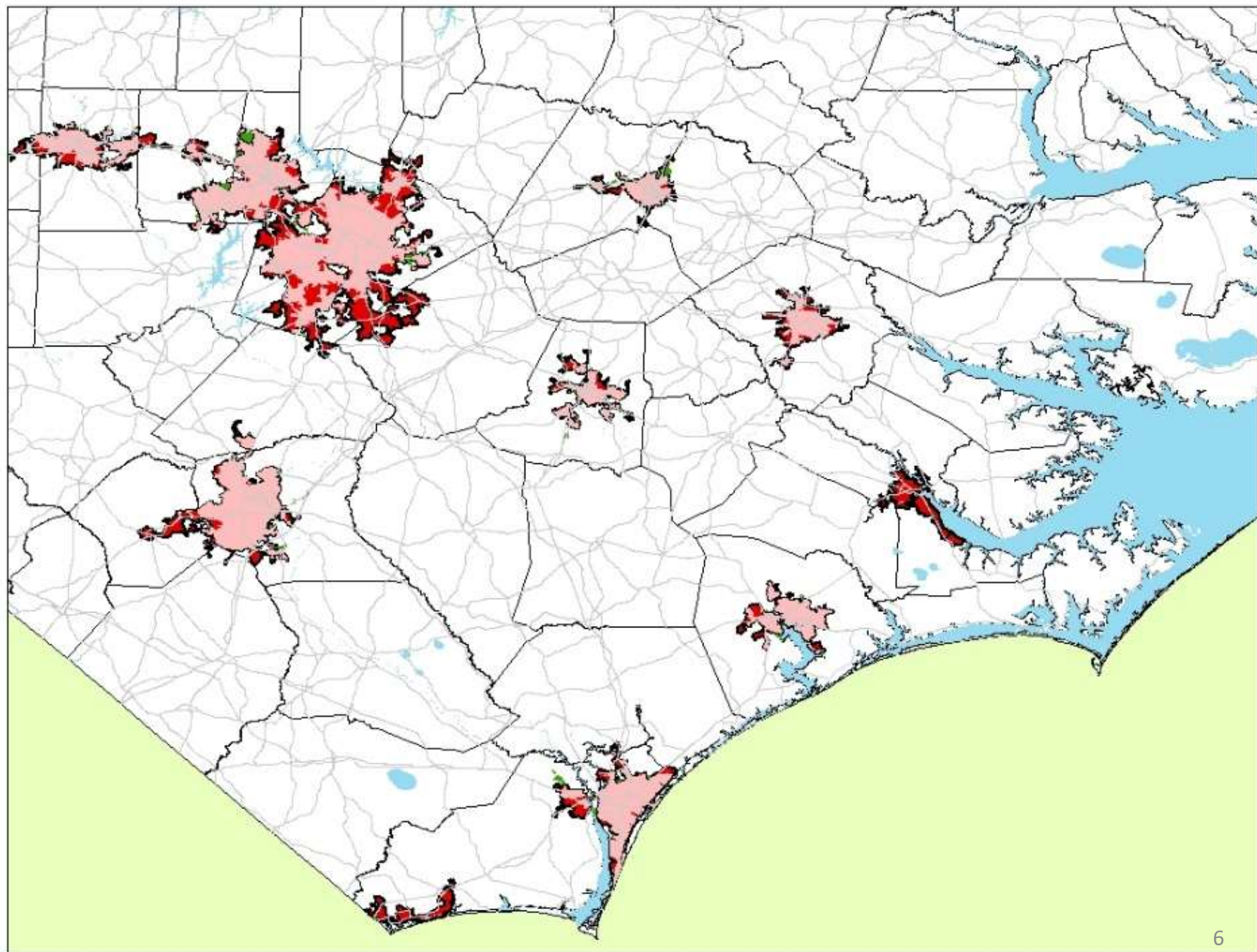
Step 2. System Service Data

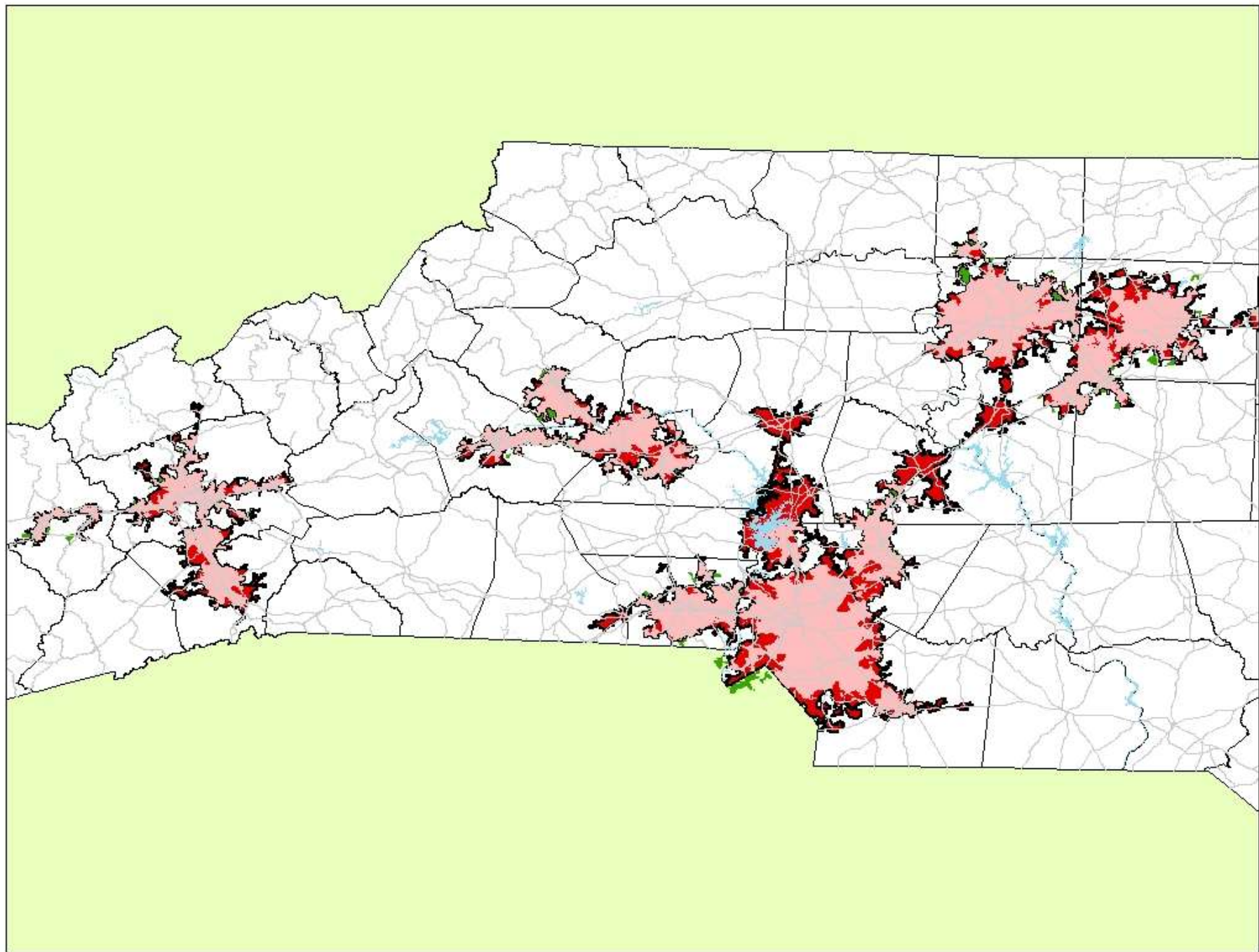
Service Parameter	Fixed Route Modes						Demand Response Modes						Total
	Urban Fixed Route Modes			Rural Fixed Modes			Urban Demand Response Modes			Rural Demand Response Modes			
	Fleet Route	Route Deviation	Commuter Bus	Fleet Route	Route Deviation	Commuter Bus	Demand Response	Complementary Paratransit	DR - Taxi	Demand Response	Complementary Paratransit	DR - Taxi	
Enter the Total Number of Vehicle Hours:	0	0	0	0	0	0	31,643.0	0	52,656	0.0	0	866	85,165
Enter the Total Number of Vehicle Miles:	0	0	0	0	0	0	714,846	0	2,366,520	0	0	38,964	3,120,330
Enter the Total Number of Trips:	101,844	0	0	0	0	0	79,016	0	298,897	2,519	0	0	483,276
Enter the Total Number of Peak Period Fixed Route Vehicles:	0	0	0	0	0	0							

Note: Your service data should be predicated on prior year actual data as reported by your automated scheduling system. Reports should be consistent with the method of "trip counting" selected in the previous form.

Determining Urban Service

- There is no 'right' answer
- Goals:
 - Reasonable and consistent- **REQUIRED**
 - Simple to collect and report- **DESIRED**
 - Maximize funding- **DESIRED**





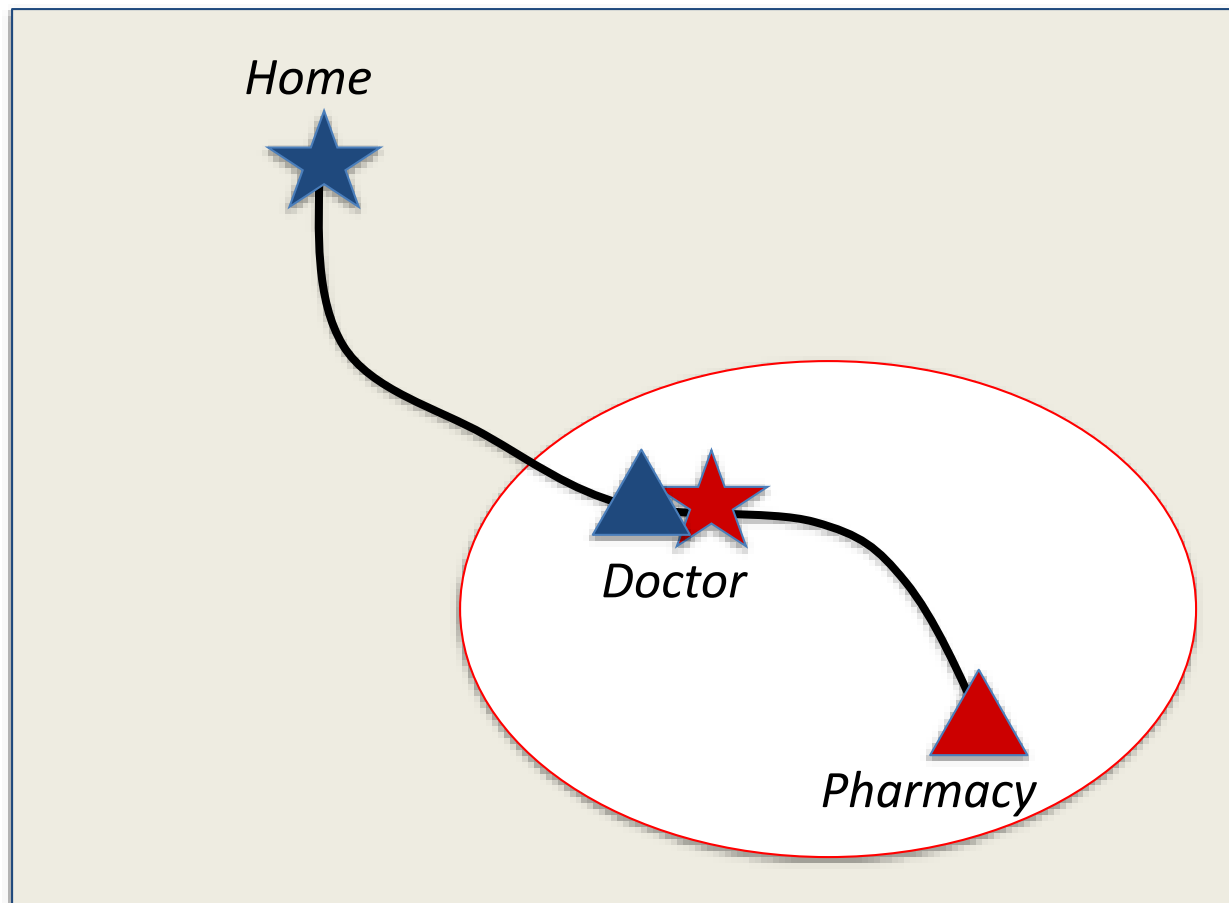
Options

- Trip Ends
 - One trip end in rural area = rural trip
- Customer Home
 - Customer home in rural area = rural trip
- Urban and rural routes, regardless of who rides or where
- Proportionalize routes based on distance or time inside the rural area

Trip Ends

One end in the rural area = rural

1 rural, 1 urban trip



Rural Area

Urban Area

★ Rural Pickup

★ Urban Pickup

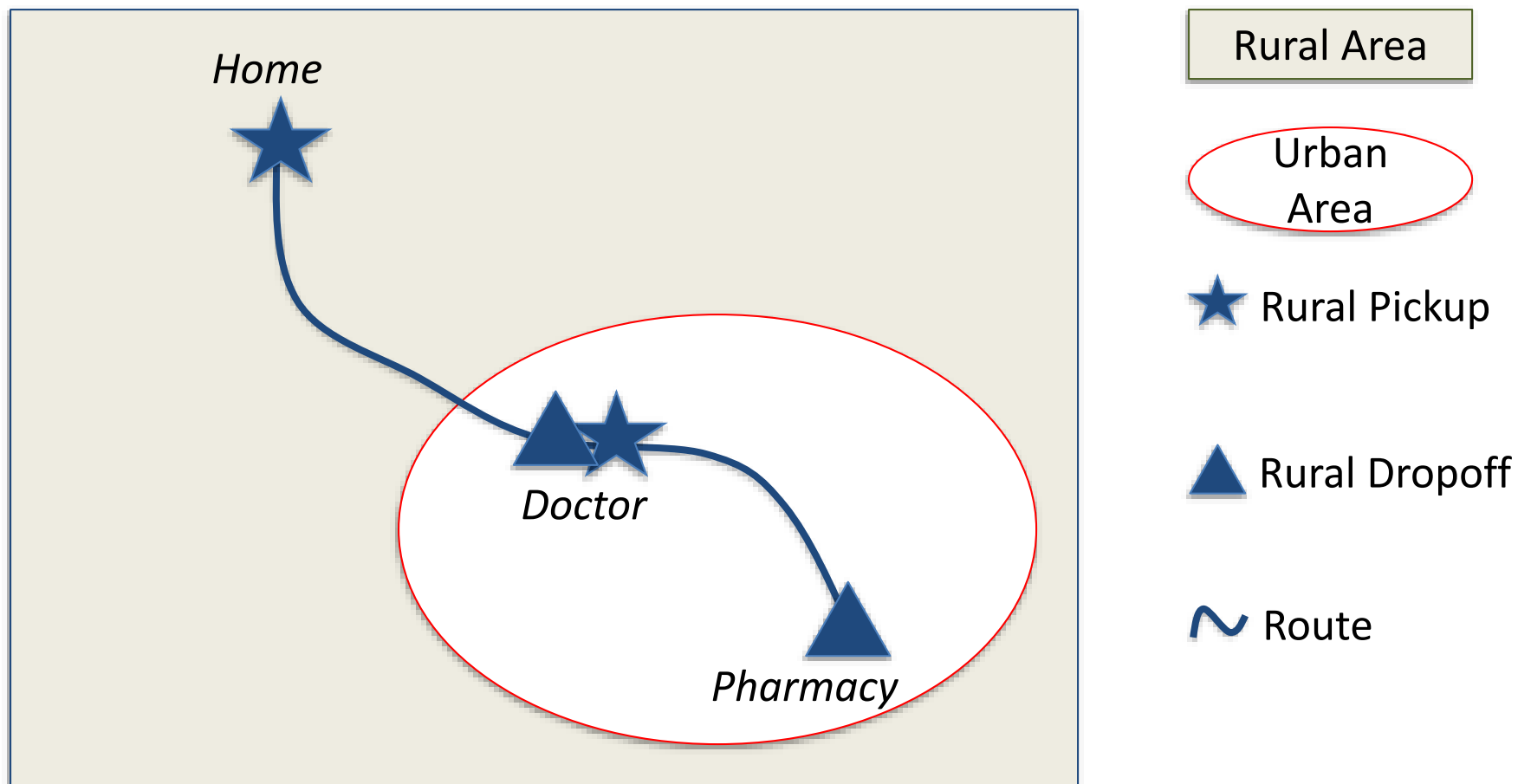
▲ Rural Dropoff

▲ Urban Dropoff

~ Route

Customer Home

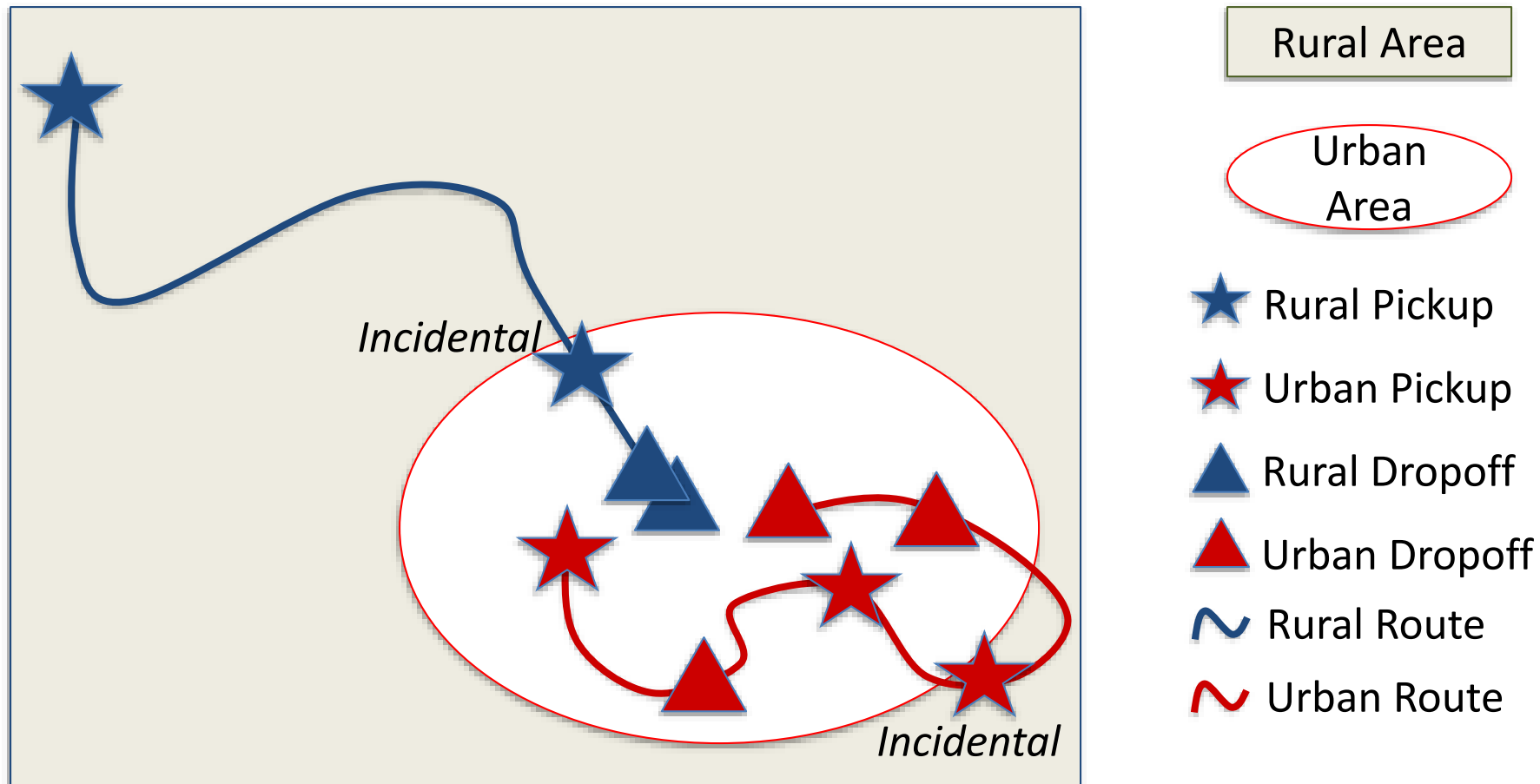
Trips are coded based on whether the home is rural or urban
2 rural trips



Urban and Rural Routes

Which group is the primary target of the service?

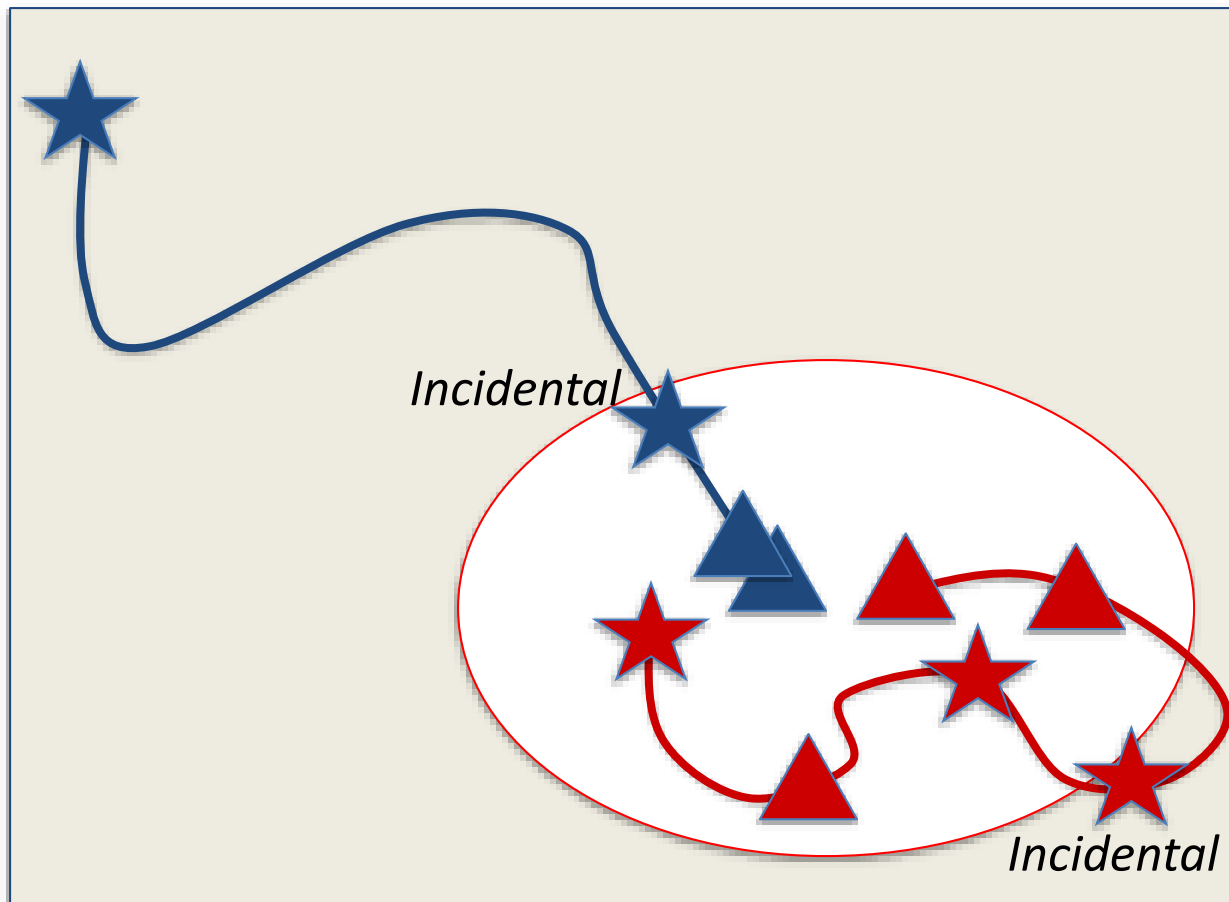
2 rural, 3 urban trips



Proportionalize Routes

Split time or miles for each route

2 rural, 3 urban trips



Rural Area

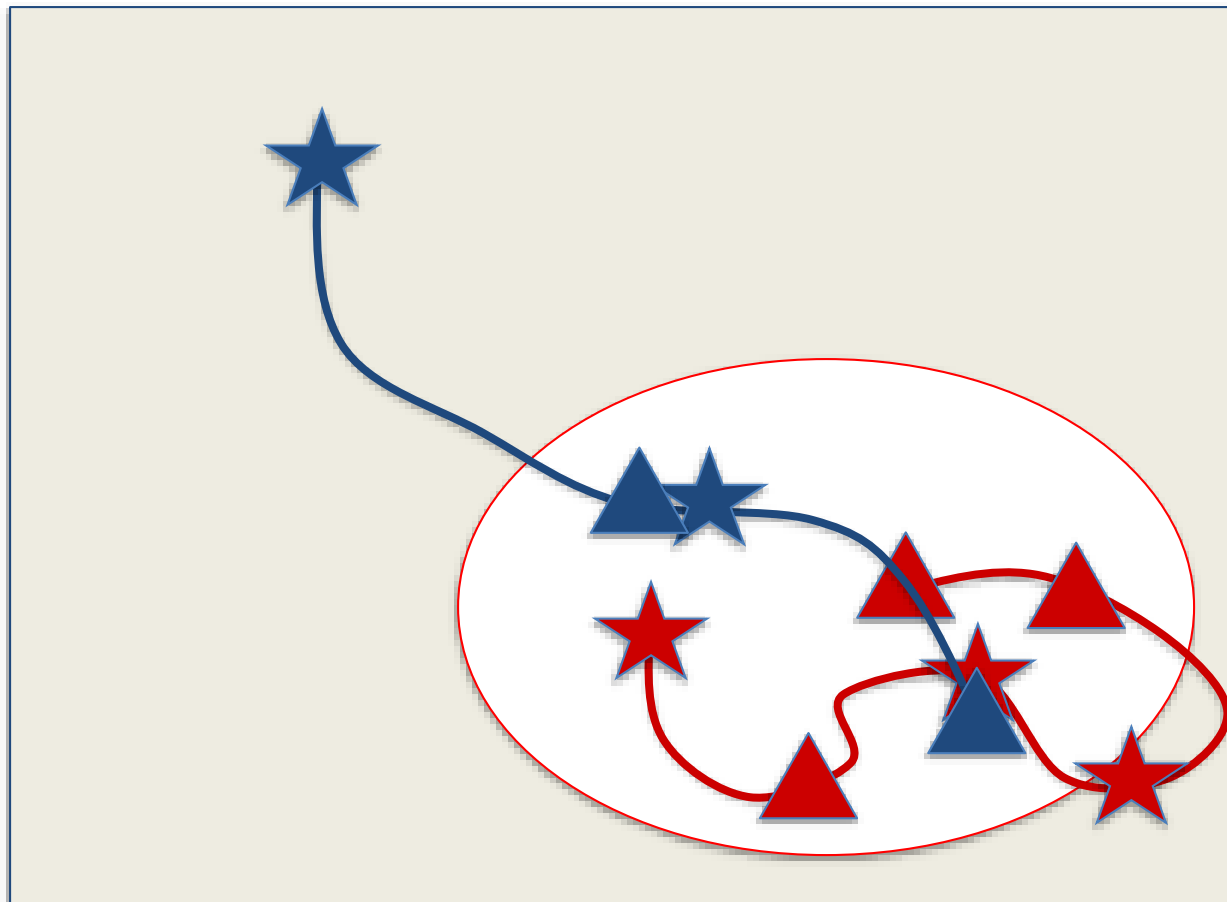
Urban Area

- ★ Rural Pickup
- ★ Urban Pickup
- ▲ Rural Dropoff
- ▲ Urban Dropoff
- ~ Rural Route
- ~ Urban Route

Mode Splits

The methods may differ if modes have different characteristics

2 rural, 3 urban trips



DR based on customer home

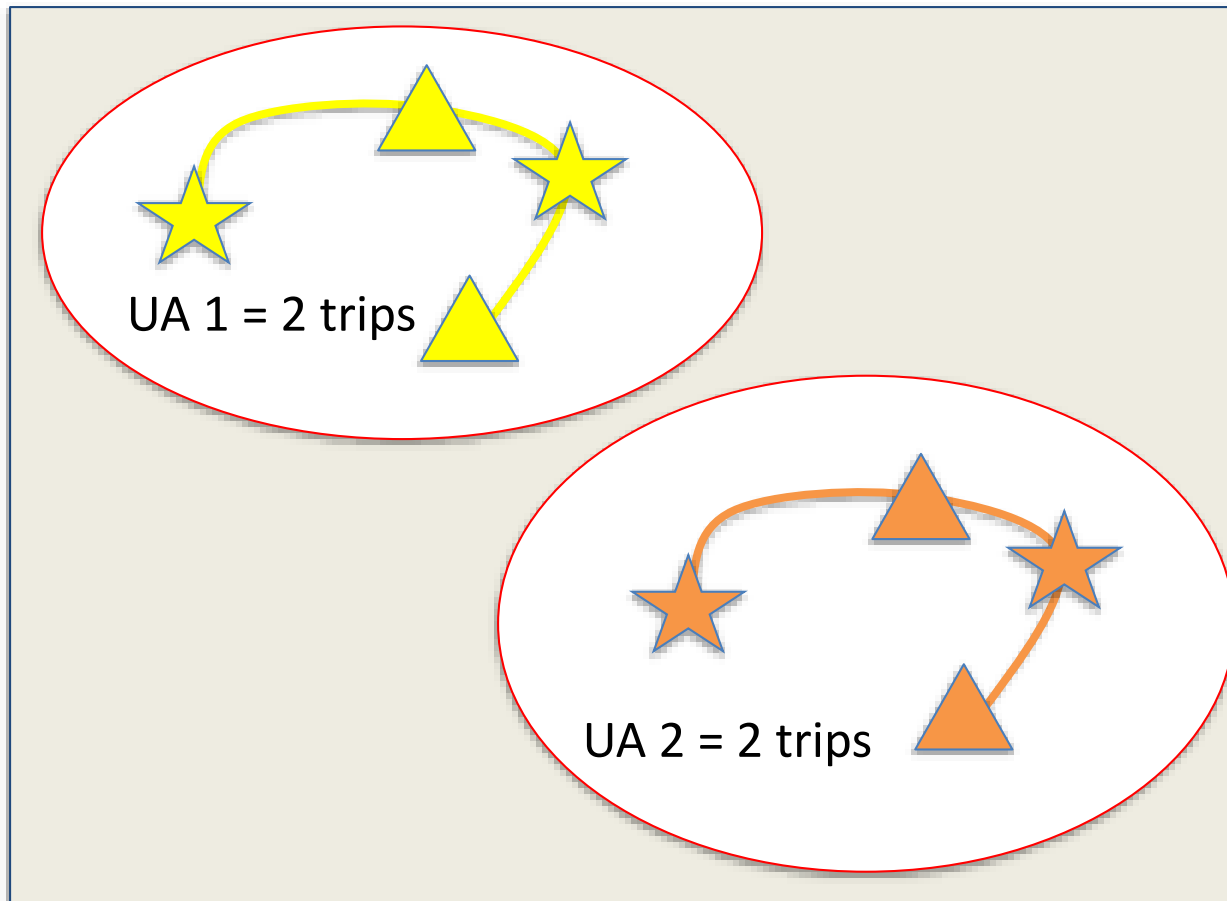
FR based on route

~ DR Route

~ FR Route

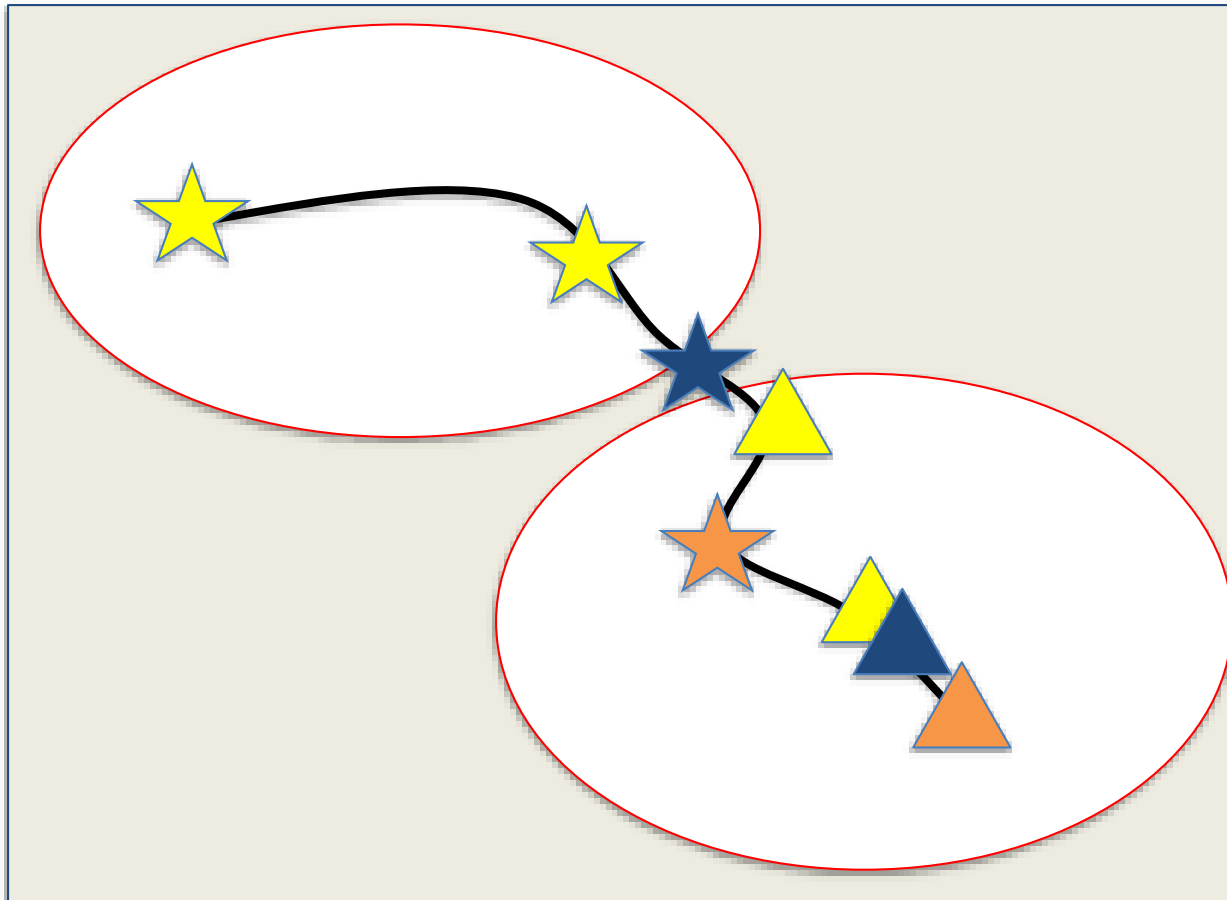
Multiple Urban Areas

No choice if the service is contained within one urban area



Multiple Urban Areas

All options are available



Options Summary

- Trip Ends- One trip end in rural area = rural trip
 - Requires coding by trip origin/destination
 - Easy with GIS-based routing software
 - Favors urban service over customer home method
- Customer Home- Customer home in rural area = rural trip
 - Requires coding by customer home
 - Easy with any software
 - Favors rural service over trip ends method
- Urban and rural routes, regardless of who rides or where
 - Requires coding by route and consistent routes
 - Software may not handle this directly
 - Favors? Depends on route structure
- Proportionalize routes based on distance or time inside the rural area
 - Difficult
 - Requires post-processing of GPS data
 - Favors? Depends on route structure

How to Choose

- Large Urban miles result in MPO 5307 funding
 - Worth 10x more than rural miles
 - Will you get the money from the MPO?
 - Even if you receive less than what you 'earn', is it greater than 10%?
 - Administrative budget impacts
- Small Urban miles result in zero additional 5307 GA funding
- Rural miles result in State 5311 funding
 - Must be careful where 5311 subsidies are applied

Thought Exercise

70% urban, 30% rural vs. 30% urban, 70% rural

- Relationship with the MPO
- Full apportionment of 5311 funds, but 5311 administrative budget should only cover rural portion of administrative expenses
 - How will the remainder must be covered?
- Impacts on operating subsidy

Take-Aways

- Reasonable and consistent- cannot change often
- Based on actual service being delivered
- Lots of flexibility
- The results matter
- There is not one solution that is best for everyone

Discussion Questions

- What is your strategy?
- How are you compiling the data?
- How are you managing the changes in administrative and operating funding?